

Faculty Innovator Grant 2017
Center for Learning and Teaching

Final Report Form

Primary Faculty Name:	Elizabeth A. Burns
Department:	Teaching & Learning
Email Address:	Eburns@odu.edu
Office Phone Number:	757-683-7182
Project Title: (10 words or less)	Rolling into Coding in a Hybrid Class

Other faculty:

Faculty Name:	Department	Email Address	Office Phone Number
Sue Kimmel	Teaching & Learning	Skimmel@odu.edu	757-683-5714

1. Describe the specific teaching and learning issues being addressed by the proposal.

1. The need for university instructors to implement successful technology-enhanced learning activities in hybrid courses
2. The need for technological proficiency among K12 teachers/school librarians leading to integration within the K12 classroom.

2. Describe the revised specific teaching and learning issues being addressed by the proposal (if applicable):

There were no revised issues addressed by the proposal.

3. Describe the development activities involved addressing the learning or teaching issue.

A teaching and learning module was created to include in the LIBS summer courses. Content on coding using robots (specifically app controlled robots such as Sphero) and their use and function in a K-12 environment, primarily the school library was included. Faculty explored best practice for embedding experiential learning in online courses. This led to the development of teaching and learning content and tasks for students. Faculty developed a module that introduced content prior to student's campus visit. A ½ day experience that encouraged engagement in small groups using the robots while on campus was created and facilitated. After leaving the institute, students submitted written proposals that were competitively evaluated and scored using a faculty-developed rubric. 5 students were then selected to receive a Sphero in their school setting to use with K-12 learners and present their experience to a larger professional community at a state school library conference.

4. Describe the learning outcomes attained by the project.

- Students in a predominantly online program had the opportunity to interact with new technology in a F2F setting.

Faculty Innovator Grant 2017
Center for Learning and Teaching

Final Report Form

-
- Capitalizing on the benefits of the hybrid course structure, students experienced coding with online apps prior to their campus visit and then engaged with the hands-on component of the technology while on campus.
 - Pre-service school librarians (many of whom are current classroom teachers) had the opportunity to explore the use of simple robotic coding technology in a supported environment. The students worked in a group setting where they shared knowledge and gained a better understanding of the technology in an experiential, collaborative setting.
 - Students explored what coding means in the educational context and how it fits in to the K-12 setting.

5. Describe unexpected outcomes, if any.

Faculty found students in the library program needed greater scaffolding to best use and understand the technology. Future use of the technology will include greater opportunities for direct instruction as well as direct modeling of the technology to better assist student learners. Students gained a greater appreciation for the authentic critical thinking and problem solving tasks students in K-12 may be tasked with. Though initially uncomfortable with the new technology, students had positive evaluations of the final learning experience.

6. Describe the impact of the completed project on your colleagues, department, college, or community.

The project allowed over 100 students in the school library program to have direct interaction with coding. The ability to explore coding applications on personal devices prior to arrival on campus allowed for all students to experiment with the technology and gain familiarity with technology.

7. Describe how the project can be a model, template, or prototype for use by other instructors.

Project as model for university instructors: A primary goal of this proposed project is to allow more experiential learning opportunities in hybrid or distance learning courses. It is intended that this project will help develop an instructional model that can be modified and used by other distance- learning instructors seeking ways to integrate opportunities for students to interact and engage with new technologies.

Project model for pre-service school librarians: Because the project's primary participants are pre-service school librarians, one of the proposed project's main goals is to equip these future educators with the specific technological knowledge they need to implement projects in their classrooms or future school libraries. Additionally, the project is designed to instill in participants an awareness of the impact knowledge of coding has on a global society and the relation this skill has to the school library standards. This will help to situate coding's place within the context of the school library. The experiential, authentic practice afforded through this funded opportunity allows for an improved comfort level working with technology, allowing these pre-service teachers to more readily integrate novel technologies in their classroom and/ or library setting.

8. Describe the technology used to help address the issues described in the proposal.

The technology selected for this project is the Sphero App Robot. The Sphero Robot provides access to coding technology on any smart phone or tablet, which our students either own, or we

Faculty Innovator Grant 2017
Center for Learning and Teaching

Final Report Form

are able to provide. This allowed each student to directly engage with the technology. These robots were chosen for their ease of use in a variety of school settings. These robots are durable and can be used by students in a K-12 setting. The cost per unit does not make these prohibitive to the budget of a school division. Sphero robots are compatible with multiple free coding apps available for both ios and android devices. Additionally, Sphero has optional curriculum and lessons available, so those who are less experienced with technology will not feel unsupported in their early efforts.

9. Describe products, if any, that are a result of the project.

For the students participating in the learning tasks, they completed a ½ day on campus experience. 5 of our students introduced the robots to students in their school environments as recipients of the technology for their competitive proposals. These students and faculty also shared their experiences with other school librarians and teaching professionals at the annual meeting of the Virginia Association of School Librarians. This session was well attended. Faculty have also been accepted to share this work in a juried paper session at the annual meeting of the Association for Library and Information Science Educators in Atlanta, GA in January. They intend to write up their work to submit for publication.

10. Describe the future plans for this project, if any.

Since the project was successful for our students, and successful for those who implemented the technology into their school settings, we intend to use the remaining 7 robots again at our upcoming summer institute in Summer 2017. Taking the lessons we learned from the experience, we will modify the experience and reintroduce the technology to our next group of students.

11. Attach a financial report with updated Budget Plan Matrix.

Final Budget Matrix

Budget Item (equipment, personnel, software, etc.)	Qty	Total Cost	Source of Funds	
			Amount from FIG	Amount from Other Source
Faculty Stipend (for time)	2x \$400	\$800	\$800	
Sphero 2.0 Robots	12	\$1559.88	\$1559.88	
Sphero covers	12	\$179.88	\$179.88	
Shipping cost to 3 participants who implemented use in K-12 setting (2 did not require shipping)	3	\$22.05	\$22.05	
VAASL conference registration for 5 participants	5	\$420	\$420	
Total		\$2981.81	\$2981.81	